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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/620,745	07/20/2000	David N. Weise	MS1-543US	3236

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LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER

ABEBE, DANIEL DEMELASH

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/620,745

Applicant(s)

WEISE, DAVID N.

Examiner

Daniel D Abebe

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-24, 32, 42, 43, 47, 48 and 56-61 is/are allowed.
- 6) ☒ Claim(s) 1, 4-6, 11-13, 17, 20, 25-31, 33, 34, 37, 44-46, 49-51 and 55 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 7-10, 14-16, 18, 19, 35, 36, 38-41 and 52-54 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-6, 11-13, 17, 20, 25-31, 33-34, 37, 44-45, 46, 49-50, 51 and 55 are rejected under 35 U.S.C. 102(b) as being anticipated by Kucera et al. (4,868,750).

As to claims 1, Kucera teaches a method for determining usage probability of a natural language dictionary, comprising:

Examining a dictionary (8), where the dictionary includes phrases that are parsed according to a grammar rule (Col.12, lines 10-19; Col.37, lines 45-48); and

Calculating a probability of usage (frequency of co-occurrence) of linguistic features (Col.12, lines 9-40);

"The function .phi. is determined as follows. A statistical analysis of the one-million word Brown Standard Corpus of Present-Day American English, Form C (the grammatically-annotated version, henceforth referred to as the "Brown Tagged Corpus" or "BTC") has determined the frequency of occurrence of each tag as well as the frequency of occurrence of each tag in a position syntactically adjacent to each other tag. By syntactically adjacent is meant adjacent except for the possible occurrence of one or more intervening words, such as adverbs, which for purposes of syntactic analysis may be ignored. This frequency of occurrence of a tag U is denoted f(U). Occurrences of a tag V syntactically adjacent to a tag U (denoted UV) are also

tabulated to determine the frequency $f(UV)$ of such occurrence. Then, under fairly reasonable assumptions on the nature of the BTC database and the set-theoretic partition imposed on it by the criterion of adjacent occurrence, the function $p(V \text{ vertline } U) = f(UV)/f(U)$ defines a conditional probability function, i.e., the probability of tag V co-occurring with U , given U . Applicant has empirically modified this conditional probability function to produce the ϕ function defined as $\phi(UV) = f(UV)/f(U)f(V)$ which corrects for the relative frequencies of occurrence of the individual tags U , V , and thus produces a function defined on pairs of tags the value of which, although not strictly a probability function, represents their likelihood of co-occurrence or, intuitively, their strength of attraction."

As to claims 4-5, Kucera teaches where instances of co-occurrences of the linguistic feature are empirically determined and a computer for performing the method (Col.12, lines 9-40).

As to claims 6, 11-12, 20 and 28, Kucera teaches where, during parsing, most probable parse and other parses are determined at individual nodes using the co-occurrences of linguistic features and statistical probability, and where the method is performed by computer (Col.11, lines 35-Col.12, line 40; Figs.9-10).

"First, a collocational tag disambiguation processor 10a applies an empirically-compiled probability-like function defined on adjacent pairs of syntactic tags to determine a unique sequence of tags (one for each word) corresponding to the most probable parse of each ambiguously-annotated word in the sentence. "

with respect to claim 13 and 17, Kucera teaches where the probability of individual nodes are summed up, wherein the values for each node is obtained from co-occurrence probability as explained above (Col.18, lines 5-20).

As to claims 25-26, Kucera teaches generating valid parse trees having hierarchial nodes and determining a syntactic value for each node and stored at each node (Col.15, lines 50-Col.16, line 27).

As to claim 27, Kucera teaches where the syntactic value include passive verb (Fig.5).

Claims 29-31, 33-34, 37, 44-45, 46, 49-50, 51 and 55 are analogous to the method claims addressed above and are rejected for the foregoing reasons by Kucera.

Allowable Subject Matter

Claims 21-24, 32, 42-43, 47-48 are allowed, because Kucera doesn't teach where each node has one or more hierarchial phrase level representing a set of possible transition, as recited in the claim.

Claims 56-61, are allowed, because Kucera doesn't teach a parse ranker for calculating a statistical goodness measure for each parse for ranking the parses.

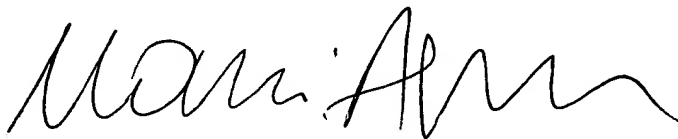
Claims 2-3, 7-10, 14-16, 18-19, 35-36, 38-41, 52-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel D Abebe whose telephone number is 703-308-5543. The examiner can normally be reached on monday-friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Abebe, Primary Examiner

A handwritten signature in black ink, appearing to read 'Dan Abebe', with a stylized, flowing script.

June 2, 2004